Remarks

The Applicant respectfully requests econsideration and reexamination of the above-identified patent application. Claims 1-26 (including independent claims 1, 11-12, 16, and 24-26) are pending in this application.

Claim Rejections - 35 U.S.C. § 103

A. Claims 1-6, 8-16, 21, and 26

The Examiner rejected claims 1-6, 8-16, 21, and 26 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,009,355 issued to Obradovich et al. ("Obradovich") in view of U.S. Patent No. 5,940,007 issued to Brinkmeyer et al. ("Brinkmeyer"). The Applicant respectfully traverses the rejections.

Regarding independent claims 1, 11-12, 16, and 26, the Examiner posited that Obradovich teaches a vehicle-based programmable appliance control system having:

a vehicle-based (serial) data communication bus (citing Fig. 1, bus 107);

a user activation input connected by a 1st interface to the bus (citing Fig. 1, input interfaces 104);

a RF transmitter remotely located from the user activation input and connected by a 2nd interface to the bus (citing Fig. 1, communication interface 106, col. 20, lines 43-65, remote vehicle disable); and

control logic connected by a 3rd interface to the bus (citing Fig. 1, processor 105 connected to bus 107).

The Examiner indicated that Obradovich is silent on:

upon being asserted, the user activation input provides an activation input signal to the bus for receipt by the control logic;

the control logic receives the activation input signal from the bus, generates control signals corresponding to the activation input signal, and provides the control signals to the bus for receipt by the transmitter; and

the transmitter receives the control signals from the bus, generates a RF appliance activation signal in accordance with the control signals, and transmits the application signal for receipt by an appliance.

The Examiner posited that Brinkmeyer teaches a RF transmitter (citing Fig. 1, col. 3, line 64+ , key fob 1) transmits control signal to control logic associated with transceiver control (citing col. 4, lines 9-39, transceiver 4a), the control logic generates signals and transmits the garage door opener (GDO) signals to the GDO receiver (citing Fig. 1, receiver 2a) for portable remote control. The Examiner posited that it would have been obvious include in Obradovich the noted Brinkmeyer features because such remote transmission prevents access to garage entry without unnecessarily accessing the garage door from inside the vehicle, thus increasing the communication range.

Obradovich appears to teach a vehicle bus (107) interconnecting user input interfaces (104) such as a touch screen (104a), a processor (105), and communication interfaces (106) such as a phone (106a) (see Fig. 1).

Brinkmeyer appears to teach a portable key fob (1) which wirelessly communicates with the receiver of a garage door opener ("GDO") (2) via a radio channel (Fu1) of a radio data communication path (17) for remotely controlling the garage door. As key fob (1) is portable, the key fob includes its own control logic for generating a GDO signal and its own RF transmitter (see its antenna symbol in Fig. 1) for wirelessly communicating the GDO signal directly over radio channel (Fu1) to the GDO receiver. Key fob (1) wirelessly communicates with a vehicle transceiver (4a) via another radio channel (Fu3) of radio data communication path (17). (See Fig. 1; col. 3, line 64 through col. 4, line 13.)

Brinkmeyer appears to teach that the GDO signal transmitted by the transmitter of key fob (1) can be "converted" to vehicle transceiver (4a). In this case, vehicle transceiver (4a) wirelessly communicates the GDO signal transmitted by key fob (1) to the GDO receiver via an optional radio channel (Ful_{opt}) of the radio data communication path (17). As such, in this case, the transmitter of key fob (1) wirelessly communicates the GDO signal to vehicle transceiver (4a) via radio channel (Fu3) and then vehicle transceiver (4a) wirelessly communicates the GDO signal to the GDO receiver via the optional radio channel (Ful_{opt}). (See Fig. 1; col. 3, line 64 through col. 4, line 22.) Notably, communication between key fob (1) and vehicle transceiver (4a) (including the transmission of the GDO signal from key fob (1) to vehicle transceiver (4a)) is done wirelessly via radio channel (Fu3).

Brinkmeyer appears to teach that vehicle transceiver (4a) is connected with other components of the electric system of the vehicle via a data bus system (col. 4, lines 37-39). Notably, Brinkmeyer does not teach or suggest that key fob (1) communicates with vehicle transceiver (4a) via the data bus system.

As indicated above, the Examiner indicated that Brinkmeyer teaches:

(i) upon being asserted, the user activation input provides an activation input signal to the [vehicle-based] bus for receipt by the control logic;

(ii) the control logic receives the activation input signal from the [vehicle-based] bus, generates control signals corresponding to the activation input signal, and provides the control signals to the [vehicle-based] bus for receipt by the transmitter; and

(iii) the transmitter receives the control signals from the [vehicle-based] bus, generates a RF appliance activation signal in accordance with the control signals, and transmits the application signal for receipt by an appliance.

With respect to (i), Brinkmeyer does not teach or suggest providing an activation input signal from a user activation input to a vehicle-based bus interconnecting the user activation input, a transmitter, and control logic as claimed. In contrast, Brinkmeyer appears to teach a portable key fob (1) having a user activation input (5), a transmitter, and

control logic somehow interconnected with one another in which an activation input signal from user activation input (5) is provided without the use of said vehicle-based bus to the control logic.

With respect to (ii), Brinkmeyer does not teach or suggest the control logic receiving the activation input signal from the user activation input via said vehicle-based bus and providing control signals corresponding to the activation input signal to said vehicle-based bus for receipt by the transmitter as claimed. In contrast, Brinkmeyer appears to teach a portable key fob (1) having a user activation input (5), a transmitter, and control logic somehow interconnected with one another in which the control logic receives the activation input signal from user activation input (5) without the use of said vehicle-based bus and in which the control logic provides a corresponding GDO control signal to the transmitter without the use of said vehicle-based bus.

With respect to (iii), Brinkmeyer does not teach or suggest the transmitter receiving control signals from the control logic via said vehicle-based bus as claimed. In contrast, Brinkmeyer appears to teach a portable key fob (1) having a user activation input (5), a transmitter, and control logic somehow interconnected with one another in which the transmitter receives a corresponding GDO control signal from the control logic without the use of said vehicle-based bus.

As noted above, the Examiner posited that Brinkmeyer teaches the transmitter of key fob (1) transmitting control signals to vehicle transceiver (4a) and that vehicle transceiver (4a) includes control logic. The Applicant notes that vehicle transceiver (4a) essentially acts as a repeater by wirelessly transmitting a GDO signal to GDO receiver via optional radio channel (Ful_{opt}) upon wirelessly receiving the GDO signal from the transmitter of key fob (1) via radio channel (Fu3). Although vehicle transceiver (4a) is connected with other components of the electric system of the vehicle via a data bus system (col. 4, lines 37-39), Brinkmeyer does not teach or suggest that key fob (1) and vehicle transceiver (4a) communicate GDO signals over the data bus system between one another as claimed.

Accordingly, neither Obradovich nor Brinkmeyer, alone or in combination, teach or suggest independent claims 1, 11-12, 16, and 26. Claims 2-6, 8-10, 13-15, and 21 depend from one of these independent claims and include the limitations of their respective independent claim. Thus, the Applicant respectfully requests reconsideration and withdraw of the rejection to claims 1-6, 8-16, 21, and 26 under 35 U.S.C. §103(a).

B. Claims 17-20 and 22-23

The Examiner rejected claims 17-20 and 22-23 under 35 U.S.C. § 103(a) as being unpatentable over Obradovich in view of Brinkmeyer and U.S. Patent No. 5,903,226 issued to Suman et al. ("Suman"). Claims 17-20 and 22-23 depend from independent claim 16 and include the limitations therein. Thus, the Applicant respectfully requests reconsideration and withdraw of the rejection to claims 17-20 and 22-23 under 35 U.S.C. § 103(a).

C. Claim 7

The Examiner rejected claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Obradovich in view of Brinkmeyer and Korean Application No. 2002078726 issued to Ahn et al. Claim 7 depends from independent claim 1 and includes the limitations therein. Thus, the Applicant respectfully requests reconsideration and withdraw of the rejection to claim 7 under 35 U.S.C. § 103(a).

D. Claims 24-25

The Examiner rejected independent claims 24-25 under 35 U.S.C. § 103(a) as being unpatentable over Obradovich in view of Brinkmeyer and U.S. Patent No. 6,031,465 issued to Burgess ("Burgess"). The Examiner posited that all subject matters except the control logic in rolling code programming mode generating and transmitting a sequence of rolling code activation signals until user input indicates a successful rolling code transmission

scheme in independent claims 24-25 have been discussed with regards to independent claim 26 (noted by the Applicant above in the discussion regarding independent claims 1, 11-12, 16, and 26). The Examiner posited that Burgess teaches the control logic in rolling code programming mode generating and transmitting a sequence of rolling code activation signals until user input indicates a successful rolling code transmission scheme (citing col. 4, lines 46-64, rolling-code type synchronization for maintaining proximity communication; col. 5, lines 12-20, establishing and maintaining synchronization) for the purpose of providing proximity communication.

With respect to the Examiner's position regarding independent claims 24-25 in conjunction with Obradovich and Brinkmeyer and independent claim 26, independent claim 26 is patentable over Obradovich in view of Brinkmeyer because the combination of Obradovich and Brinkmeyer does not teach or suggest all subject matters except the control logic in rolling code programming mode generating and transmitting a sequence of rolling code activation signals until user input indicates a successful rolling code transmission scheme as discussed by the Applicant above with respect to independent claims 1, 11-12, 16, and 26. As such, independent claims 24-25 are patentable over Obradovich, Brinkmeyer, and Burgess. Accordingly, the Applicant respectfully requests reconsideration and withdraw of the rejection to claims 24-25 under 35 U.S.C. § 103(a).

With respect to the Examiner's position regarding independent claims 24-25 in conjunction with Burgess, the Applicant notes that independent claim 24 recites the control logic in rolling code programming mode generating and transmitting a sequence of rolling code activation signals until user input indicates a successful rolling code transmission scheme. The Examiner's cited portions of Burgess (col. 4, lines 46-64, and col. 5, lines 12-20) in no way teach or suggest this limitation. The Examiner further posited in the final Office Action that Burgess discloses rolling-code type synchronization (col. 4, lines 49-64) schemes which establishes secure handshaking between communication devices and, as such, the user keeps transmitting signals until the synchronization is established successfully.

Col. 4, lines 49-64 of Burgess:

> The electronics preferably includes a shut-down mode which is automatically entered after a preset number of false triggers to save on battery power. The invention may also be made compatible with existing rolling-code type synchronization schemes, though this is not mandatory. More specifically, advanced fob-actuated remote-entry schemes now utilize a relatively complex synchronization scheme whereby the transmission of an initial broadcast by the fob initiates a timing sequence within the receiver so that subsequent communications may be conducted in a synchronous manner. Such a scheme, though complex, helps to guard against theft by keeping track of synchronization timing in addition to the actual codes transmitted, such that if a fob is used repeatedly outside of the range of the appropriate receiver, synchronization will be lost, thereby disabling the ability of that fob to interact with the vehicle.

As seen upon a reading of col. 4, lines 49-64 of this passage of Burgess, there is no teaching or suggestion that a user keeps transmitting signals until the synchronization is established successfully. Rather, if synchronization is lost, then the user can keep transmitting signals infinitely and synchronization will still not occur ("if a fob is used repeatedly outside of the range of the appropriate receiver, synchronization will be lost, thereby disabling the ability of the fob to interact with the vehicle"). This scenario assumes that synchronization has been obtained. To gain synchronization, "the transmission of an initial broadcast by the fob initiates a timing sequence within the receiver so that subsequent communications may be conducted in a synchronous manner." As such, an "initial" broadcast is used and there is no teaching of a user keeping on broadcasting signals until the synchronization is established successfully.

For this additional reason, the Applicant submits that independent claim 24 is patentable over Obradovich, Brinkmeyer, and Burgess. Accordingly, the Applicant respectfully requests reconsideration and withdraw of the rejection to claim 24 under 35 U.S.C. § 103(a) for this additional reason.

CONCLUSION

In summary, claims 1-26 meet the substantive requirements for patentability. The case is in appropriate condition for allowance. Accordingly, such action is respectfully requested.

If a telephone or video conference would expedite allowance or resolve any further questions, such a conference is invited at the convenience of the Examiner.

Respectfully submitted,
MARK D. CHUEY

By_____
James N. Kallis
Reg. No. 41,102
Attorney for Applicant

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BROOKS KUSHMAN P.C.
1000 Town Center, 22nd Floor
Southfield, MI 48075-1238
Phone: 248-358-4400
Fax: 248-358-3351